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ABSTRACT

A study was conducted to determine if teachers' use of transitions and additional unexplained content influenced student achievement and perception of lesson effectiveness. One hundred eleventh grade English students were randomly assigned to one of four groups defined by possible combinations of two teacher transition conditions (transitions or no transitions) and two additional content conditions (additional unexplained content and no additional unexplained content). Each group was presented a lesson involving parallel sentence structure and then tested on comprehension of the material. Each group also completed a lesson evaluation. The results showed that teacher transitions significantly affected achievement but that additional content did not. Additional content significantly affected student perception of lesson effectiveness, but transitions generally did not. (Author/FL)

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Effect of Teacher Transitions and Superfluous Content on Student Achievement and on Perception of Lesson Effectiveness in High School English

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Among the behaviors comprising the teaching-learning situation, the verbal ones typically predominate. Rosenshine (1971) reviewed research on teacher verbal behaviors and described it as being naturalistic, correlational, and dealing with high inference behaviors. The findings of such research do not necessarily suggest that the presence or absence of a particular teaching behavior causes students to achieve. An experimental design is necessary to establish cause-and-effect between an independent variable such as a low inference teacher verbal behavior and a dependent variable such as achievement.

The purpose of this article is to respond to the demand for the use of experimental designs to study the effects of low inference teacher behaviors on student achievement. Three questions are addressed in this study: Do teacher transitions influence student achievement? Does additional unexplained content influence student achievement? What is the joint effect of teacher transitions and additional content on student achievement and on student perception of lesson effectiveness?

Transitions

Gnagey (1975) defined a variety of transitions, among them being thrusts and dangles. A thrust, by definition, occurs if the teacher interrupts the flow of the lesson with an announcement irrelevant to the stimuli in the lesson (Oh, by the way, several of you need to bring your money for next week's field trip. . . . ").

A dangle is defined to have occurred when one activity is begun, only to have the teacher leave the activity in suspended amination, to be completed after other relevant stimuli are attended to ("Before you get too involved in finishing this section, I need to discuss the papers you turned in yesterday. . . . "). The differentiation between thrusts and dangles often is not precise, since it may be a subjective judgment on the part of the observer as to whether relevant or irrelevant stimuli have been interjected into a lesson. However, observers have been able to identify thrusts and dangles quite reliably so long as no differentiation between the two types of transitions is required.

Kounin and his colleagues have examined transitions as they relate to classroom time and on-task pupil behavior (Kounin, 1970; Kounin and Gump, 1974; Kounin and Doyle, 1975). The results of these studies indicate that teacher transitions influence time flow and pupil behavior in the classroom. Arlin (1979) provided further support to this contention. While it seems to be agreed upon that teachers should not allow transitions to disrupt classroom activities, transitions have not been investigated actively in terms of their influence on student achievement and on student perception of lesson effectiveness.

Additional Unexplained Content

Brause (1977) implied that teacher discourse containing ambiguities and complex language structures negatively affects student achievement. Linville (1970) reported that elementary school students achieved higher when their teachers did not use complex syntax and vocabulary. In an attempt to replicate the conditions of the Linville study, Land and Smith (1979) defined additional unexplained content to be terms that are left undefined by the teacher and

that are not essential for comprehension of the substantive content of the lesson. Land and Smith reported that such terms generally increase the difficulty of the vocabulary of the lesson and raise the level of semantic ambiguity.

Student Perception

Those who question the value of student evaluations of instruction suggest that the student lacks the perspective to assess instructional effectiveness. However, studies by Frey (1973) and Marsh, Fleiner, and Thomas (1975) revealed that, when different instructors of the same course gave a common final examination, the sections who gave high (low) ratings to their instructors most frequently made high (low) examination scores. Staybrook, Corno, and Winne (1978) further supported the contention that perception of lesson effectiveness is an important determinant of student achievement. The present study investigates the joint effects of teacher transitions and additional unexplained content on student achievement and student perception.

Method

Subjects

The 100 students were enrolled in eleventh grade English classes in Richmond County (Georgia) public schools. The students participated by virtue of their teachers' willingness to release them from regularly scheduled classes for one hour. Each student was randomly assigned to one of four groups defined by the possible combinations of two transition conditions (transitions, no transitions) and two additional unexplained content conditions (additional content, no additional content).

Procedure

Each of the four groups observed a 14- to 17-minute videotaped lesson on parallel sentence structure. The lesson times varied slightly because of the addition of transitions and/or additional content to some of the lessons. To effect maximum control over teacher behavior variables, the lessons were scripted and videotaped by the same instructor. The only difference in the videotaped lessons was the presence or absence of transitions and/or additional content. The instructor did not appear on the videotapes; only her voice and corresponding overhead transparency projections were taped.

The videotaped lessons were essential to produce desired levels of transitions and additional content. Such a technique may not seem as natural as "live" lessons, but Borg and Ascoine (1979) attempted to study teacher transitions by observing live presentations and reported that transitions were not reliably observed and did not occur at a variety of levels so as to make comparisons possible. Further, Taveggia (1974) reviewed research that indicated there is no significant difference between academic achievement of students instructed face-to-face and achievement of students presented videotaped lessons.

Each of the four lessons demonstrated the proper use of nouns, adjectives, verbs, adverbs, and prepositional phrases in writing sentences with parallel structure. Although all of the students had previous instruction in grammar and composition, none had prior instruction on parallel sentence structure per se. Thus the lesson topic could be presented in a short period of time, yet the material had not been covered previously in class.

Each lesson was begun with a brief review of nouns, and then an example of a sentence containing nouns in parallel structure was presented. Next, an example of improper use of nouns in parallel structure was presented; and then the improper sentence was corrected so as to demonstrate parallel structure. This sequence also was followed for adjectives, verbs, adverbs, and prepositional phrases.

Student comprehension of the lessons was determined by administering a 35-item test immediately after each lesson was completed. The test focused on identifying whether sentences were correctly parallel. The Kuder-Richardson 20 test reliability was .88.

Immediately after the students completed the test, they were administered a five-item lesson evaluation (Table 1). This cluster of items was reported by Smith and Land (in press) to be related to teacher clarity, and it was hypothesized that the use of transitions and extra content would be reflected in student ratings on these items. The numbers in parentheses were used for scoring purposes. A higher number indicated a better rating than a lower number. These numbers did not appear on the student forms.

Insert Table 1 about here

Two of the lessons contained a high degree of teacher transitions (20 per lesson), and two lessons contained no teacher transitions. Two of the lessons contained a high degree of additional unexplained content (30 extra terms per lesson), and two lessons contained no additional content. Transitions and extra content were inserted into lesson scripts in as natural

an order as was possible. The attempt to construct the lessons so that they seemed to represent natural and consistent presentations was the primary reason for the seemingly arbitrary levels set for transitions and extra content.

The following two paragraphs are excerpts from different sections of the lesson containing no transitions and no additional unexplained content.

"Adjectives also must be used in parallel structure. In the sentence, 'The girl has a vivid and unusual imagination,' the words 'vivid' and 'unusual' are parallel because they are coordinate adjectives. In the next example, ..."

"Look at this sentence. 'The young man attended classes, was playing a varsity sport, and is a thorough student.' The verbs are not parallel because they are not in the same tense. To correct this sentence, we should write . . . ."

The following paragraphs are corresponding excerpts from the lesson containing transitions and no additional unexplained content. The transitions are italicized.

"Adjectives also must be used in parallel structure. In the sentence, 'The girl has a vivid and unusual imagination,' the words 'vivid' and 'unusual' are parallel because they are coordinate adjectives. Wallace Stevens, an American contemporary poet, used the imagination as subject matter for many of his poems. In the next example, ..."

"Look at this sentence. 'The young man attended classes, was playing a varsity sport, and is a thorough student.' Do not confuse the word 'through' with the word 'thorough.' The verbs are not parallel because they are not in the same tense. To correct this sentence, we should write . . . ."

The following paragraphs are corresponding excerpts from the lesson containing additional unexplained content and no transitions. The additional content is italicized. The first paragraph contains the use of one additional unexplained content, and the second paragraph contains the use of two additional unexplained contents.

"Adjectives also must be used in parallel structure. An adjective usually precedes the noun it modifies unless it is a predicate adjective or an adjective complement. In the sentence, 'The girl has a vivid and unusual imagination,' the words 'vivid' and 'unusual' are parallel because they are coordinate adjectives. In the next example, ..."

"Look at this sentence. 'The young man attended classes, was playing a varsity sport, and is a thorough student.' This sentence is in the indicative mood, active voice, as opposed to the subjunctive mood, passive voice. The verbs are not parallel because they are not in the same tense. Tense is not to be confused with voice or mood. To correct this sentence, we should write . . . ."

The lesson containing transitions and additional unexplained content was constructed by including all transitions and all additional unexplained content utilized in the other lessons.

Results

A 2 (transitions vs. no transitions) x 2 (additional unexplained content vs. no additional unexplained content) analysis of variance was performed on the student achievement scores as well as on the scores for each of the five lesson evaluation items. The means and standard deviations for all six dependent variables are shown for each of the four experimental conditions in Table 2. Table 3 presents the *F* ratios for each of the 2 x 2 ANOVAs.

Insert Table 2 about here

Insert Table 3 about here

The No Transitions condition produced higher achievement scores than the Transitions condition, F (1, 96) = 9.43, $p < .01$. The No Additional Unexplained Content condition produced higher achievement scores than the Additional Unexplained Content condition, but significance did not reach the .05 level, F (1, 96) = 3.14, $.05 < p < .10$. The interaction between transitions and extra content was not significant with achievement as the dependent variable.

The main effect due to additional unexplained content was significant beyond the .01 level for lesson evaluation response item 1 ("I was confident of the materials being presented"), item 2 ("The teacher's explanations were clear to me"), and item 3 ("The teacher stayed on the main subject very well"). The additional unexplained content main effect was not significant for item 4 ("The teacher really knew what she was talking about") or for item 5 ("The teacher was prepared"). The main effect due to transitions was significant beyond the .05 level for response item 3, but was not significant for any of the other response items. The interaction between transitions and extra content was not significant for any of the five response items.

Discussion

The results of this study indicate a cause-and-effect relationship between teacher transitions and student achievement. To a less significant

degree, there is evidence that additional unexplained content negatively influences achievement. A somewhat surprising result is that, while transitions affected achievement more significantly than did extra content, the extra content had a much greater effect on student perception of lesson effectiveness than did the transitions. This implies that, while student evaluations of lesson effectiveness may be of value, such evaluations are not necessarily powerful predictors of achievement. The results of the lesson evaluations seem to indicate that, whereas extra content annoyed the students and made them feel less confident, students appeared to be relatively comfortable with transitions. It may be that students are somewhat accustomed to teachers who digress, interject irrelevant anecdotes, and generally meander through lessons.

One might argue that any "noise" could be introduced into the teaching act, regardless of whether this noise is in the form of transitions and extra content or in another form, and if the noise were "turned up loud enough," then it would confuse students. However, transitions and extra content have been shown to frequent discourse of teachers, as evidenced by research previously cited in this article. In the present study, the lessons were constructed so that the use of transitions and extra content simulated the discourse of some teachers.

Perhaps the single most relevant suggestion for teacher training and teacher evaluation is that low inference indicators of teacher effectiveness be identified and that training and evaluation focus on these particular indicators. Student outcomes, both in terms of achievement and in terms of perception of lesson effectiveness, should be integral parts of the training and evaluation process, although care should be exercised in attempting to relate perception to achievement.

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Table 1

Lesson Evaluation Form

	Definite No	No	Yes	Definite Yes
1. I was confident of the materials being presented . . .	(1)	(2)	(3)	(4)
2. The teacher's explanations were clear to me . . .	(1)	(2)	(3)	(4)
3. The teacher stayed on the main subject very well . . .	(1)	(2)	(3)	(4)
4. The teacher really knew what she was talking about . . .	(1)	(2)	(3)	(4)
5. The teacher was prepared . . .	(1)	(2)	(3)	(4)

Note: The number in parentheses indicates the value given to that response for scoring purposes.

Table 2

Group Means and Standard Deviations

Transitions	No	No	Yes	Yes	
Extra Content	No	Yes	No	Yes	Totals
Achievement Scores	28.48 (4.65)	26.76 (3.80)	25.59 (4.83)	24.00 (5.11)	26.20 (4.84)
Response Item 1	3.08 (0.40)	2.60 (0.65)	3.04 (0.73)	2.68 (0.90)	2.85 (0.72)
2	3.08 (0.59)	2.56 (1.33)	3.12 (0.60)	2.24 (0.88)	2.75 (0.95)
3	3.32 (0.48)	2.92 (0.49)	3.12 (0.53)	2.60 (0.82)	2.99 (0.64)
4	3.16 (0.75)	2.92 (0.57)	3.28 (0.46)	3.08 (0.57)	3.11 (0.60)
5	3.12 (0.67)	3.00 (0.58)	3.20 (0.58)	2.88 (0.83)	3.05 (0.67)

Note: Figures in parentheses are the standard deviations.

Table 3

F Ratios of ANOVAs

Variable	Source		
	Transitions (A)	Extra Content (B)	A x B
Achievement Scores	9.43[b]	3.14	<1
Response Item 1	<1	9.18[b]	<1
2	<1	15.71[b]	1.04
3	4.86[a]	15.71[b]	<1
4	<1	<1	<1
5	<1	<1	<1

a) $p < .05$

b) $p < .01$